

2. The Water Environment (Drainage Assessment)

- 2.1 The purpose of this Chapter is to respond to the Dfl Rivers consultation response received dated 11 June 2019.
- 2.2 A subsequent meeting was held with Dfl Rivers, Dfl Strategic Planning Division and the applicant on 21 June 2019 to discuss the issues raised in the response and agree what information was required to be contained within the Drainage Assessment.
- 2.3 A Drainage Assessment prepared by Arup is enclosed at Appendix 2.1.
- 2.4 The drainage design proposals can be summarised as follows:
- As agreed previously with Dfl Rivers, the run off from the application site will be limited to the equivalent greenfield run off rate (10l/s per hectare).
 - The proposed discharge rate from the main site will be restricted to 201 litres per second during the 1 in 100 year design event plus an additional flow of 20% for climate change through the provision of a proposed attenuation basin (as agreed previously with Dfl Rivers) with an adequate storage volume of approximately 5,582m³. A hydrobrake flow control device will be placed in a chamber which is located immediately downstream of the basin.
 - It is proposed to utilise an existing site drainage outfall for the main site area which currently discharges to a tributary watercourse of the Flush River. The attenuation basis outlet pipe will convey flows from the proposed attenuation basin to the existing reedbed ponds. The reedbed ponds currently discharge to an existing drainage ditch which conveys flows to the Flush River. A Schedule 6 consent to discharge storm water from the application site has been granted by Dfl Rivers dated 22 August 2019.
 - As a result of the proposed Boghill Road realignment, the construction of a new road drainage system will be required which includes new road drainage outfall headwall structures to the Flush River and a tributary of the Flush River. The discharge rates for new outfalls to be provided will be restricted to the existing brownfield runoff rate. This will be achieved through provision of attenuation storage within the new drainage system i.e. enlarged pipes and chambers and through the use of orifice plate or hydrobrake flow control devices to be located upstream of the outfall points to the receiving watercourses.
- 2.5 It is noted that as part of the proposed Boghill Road improvements, this will include the replacement of both existing Flush and Blacks bridges. A preliminary hydraulic assessment undertaken as part of the Drainage Assessment demonstrates that the extent of fluvial flooding/flow is considered to be limited and contained within the existing watercourse channel.
- 2.6 Notwithstanding this, the applicant will be required to obtain Schedule 6 consent for the required works relating to the bridge replacements. A detailed river model of both watercourses

will be provided as part of the Schedule 6 applications to demonstrate that the abutments or culvert walls will be positioned outside of any Q100 floodplain.

- 2.7 Based on the Drainage Assessment provided, it is considered that sufficient information is contained herein to allow DfI Rivers to confirm that the proposed development complies with Policy FLD1 and FLD3 of Planning Policy Statement 15 'Planning and Flood Risk' insofar as the proposed development is located outside of the floodplain and adequate measures will be in place to mitigate flood risk to the proposed development and from the development elsewhere.